



**564 GLOBE Teachers ... 356 GLOBE Schools**

**10,0137 Total GLOBE Measurements Submitted  
4 GLOBE Stars highlighting Student Achievement**

### **International Collaborations**

**CloudSat Satellite Mission ... Students “Ground-Truthing” for CloudSat**

- Students, following GLOBE’s Atmosphere Protocols, make atmosphere observations at the same time that CloudSat overpasses their school.
- Students compare their atmosphere observations to those made by CloudSat from Space.
- Students consider implications that CloudSat presents in the study of Climate Change.

### **Future goals**

- Support student research and collaboration thru the scientific inquiry process.
- Use the Earth Systems Science Projects to better understand Climate Change.
- Use long term data sets to study trends and patterns – change over time.

### **Progress to Date**

- Began training teachers in April 1997
- Conducted 44 teacher training workshops and 2 Train-the-Trainer workshops

**GLOBE Partner ... The SEEDS Foundation**



14th **GLOBE**

Annual Partner Meeting and  
Professional Development Workshop

*Calgary, Alberta, CANADA*

29 July - 3 August 2010



Exploring Climate through  
GLOBE Student Research





# Exploring Climate Through GLOBE Student Research

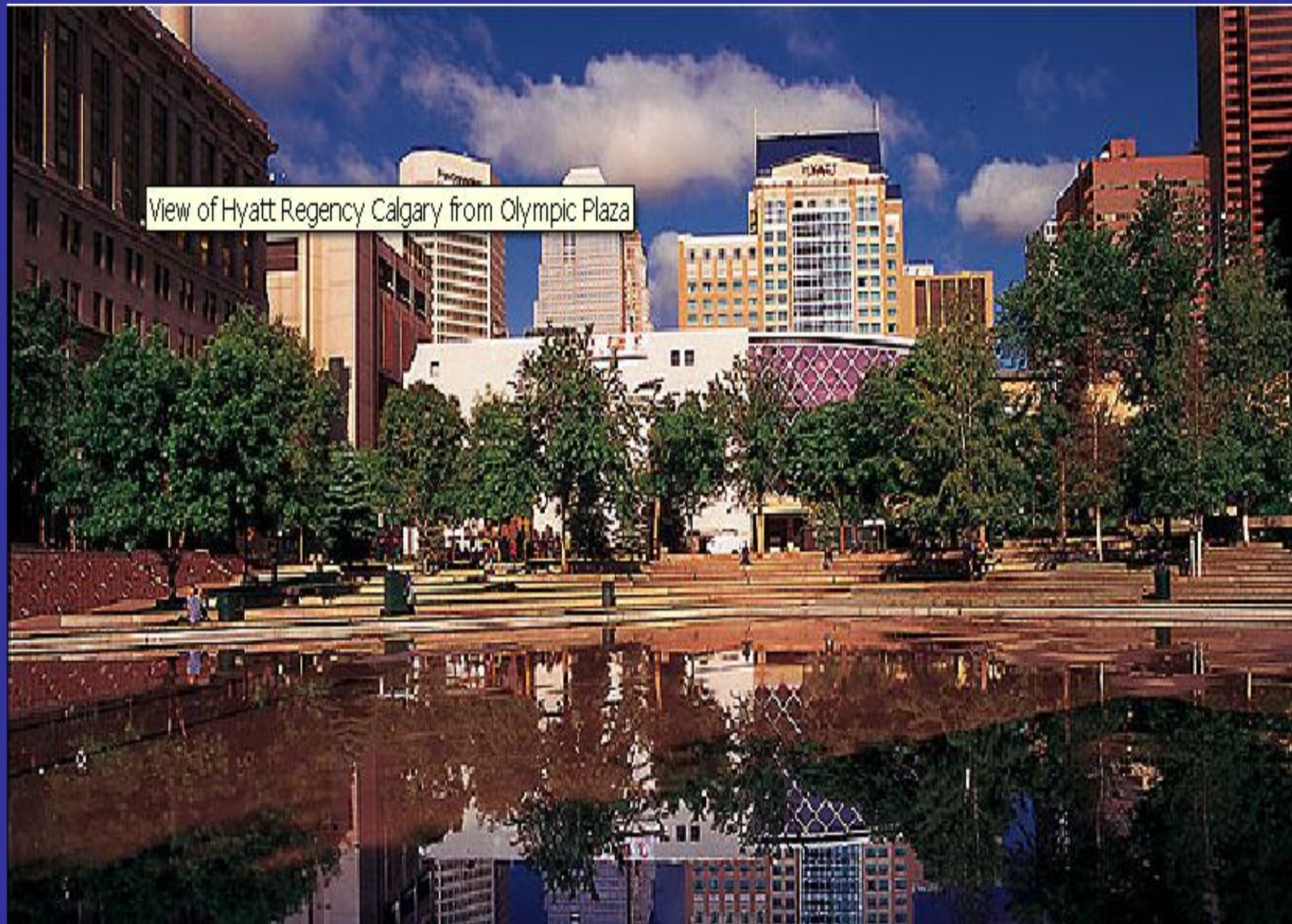


**14<sup>th</sup> Annual GLOBE Meeting**

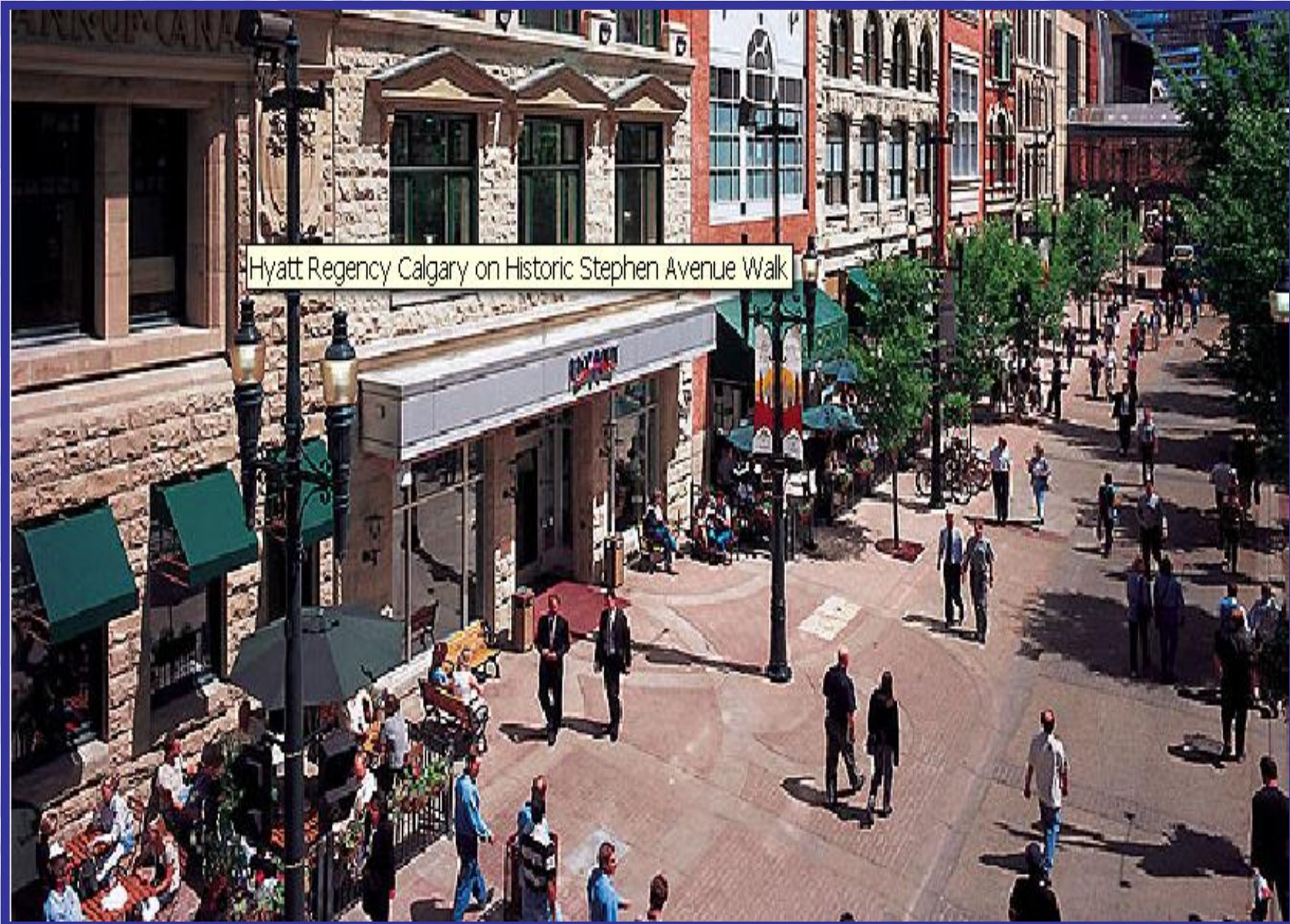
**Conference Hotel – Hyatt Regency**



View of Hyatt Regency Calgary from Olympic Plaza











# **Preliminary Agenda, GLOBE Annual Meeting and Professional Development Workshop 2010** Exploring Climate through GLOBE Student Research 29 July –3 August 2010, Calgary, Canada



Thursday, 29 July	Friday, 30 July	Saturday, 31 July	Sunday, 1 August	Monday, 2 August	Tuesday, 3 August
Registration Opening Day	GLOBE Earth System Science	GLOBE Professional Development Workshop Field Day	GLOBE Professional Development Workshop	GLOBE Professional Development Workshop ESSP	GLOBE—Moving Forward Toward 2013
Meeting Co-Chairs  GLOBE Canada: Carol Batycky and Bill Batycky  GLOBE Program Office: Dr. Teresa Kennedy and Martos Hoffman	8:00 – 9:00 Light Breakfast in Grand Foyer  9:00 – 10:00 Opening Plenary Welcome: - Meeting Co-Chairs - U.S. and Canadian Dignitaries  10:00 – 10:45 Opening Address: GLOBE Director Dr. Ed Geary  10:45 – 11:00 Break  11:00 – 12:00 GLOBE Student Climate Research Campaign Dr. Donna Charlevoix  12:00 – 13:00 Networking Lunch  13:00 – 14:45 NASA Dr. Ming-Ying Wei NOAA Dr. Christos Michalopoulos NSF Dr. Jill Karsten  14:45 – 15:00 Break  15:00 – 16:00 Engaging Students in Scientific Research Mr. Martos Hoffman  16:00 – 17:00 Poster set-up	7:00 – 8:00 Light Breakfast in Grand Foyer  8:00 Depart for Professional Development Workshop Field Site Investigations  9:00 – 12:00 Field Site Investigations	8:00 – 9:00 Light Breakfast Exhibits Open  9:00 – 9:45 Keynote GLOBE Alumni and Student Research Connections  Student Research Professional Development Workshop  10:00 – 11:00 Session I  11:00 – 11:15 Break  11:15 – 12:15 Session II  12:15 – 13:30 Lunch & Keynote Dr. Graeme Stephens CloudSAT NASA ESSP  13:30 – 14:30 Session III  14:30 – 14:45 Break  14:45 – 15:45 Session IV  15:50 – 16:00 Wrap up  16:00 – 17:00 Poster set-up	8:00 – 9:00 Light Breakfast in Grand Foyer  ESSP PD  <b>Choose One ESSP All Day</b> - Carbon Cycle - CloudSAT - FLEXE - Seasons and Biomes - Watershed Dynamics  9:00 – 10:30 ESSP Session I  10:30 – 10:45 Break  10:45 – 12:00 ESSP Session II  13:00 – 14:30 ESSP Session III  14:30 – 14:45 Break  14:45 – 16:00 ESSP Session IV	8:00 – 9:00 Light Breakfast in Grand Foyer  9:00 – 9:45 Keynote Matt Rogers-GLOBE Student Research with CloudSAT  10:00 – 11:00 Student Research, ESSP, Climate PD Wrap-up and Synthesis  11:00 – 11:15 Break  11:15 – 12:00 Closing Plenary  12:00 Meeting Adjourns Exhibits Close  <b>Post-Meeting Optional Tours</b>  Information and pricing to be posted on the online registration site.  Tuesday 13:00 – 21:00 Banff/Lake Louise  Wednesday 7:00 – 21:00 Banff Provincial Park
10:30 – 16:00 Registration and Poster Set up					
17:00 – 20:00 Welcome Reception	17:00 – 19:00 Partner Poster Presentations and Reception	17:00 Exhibitor Set Up	17:00 – 19:00 Partner Poster Presentations and Exhibitor Reception	18:00 – 21:00 GLOBE Annual Banquet and Group Photo	

- Partner Professional Development Workshop - Calgary, Alberta, Canada
- GLOBE Annual Meeting, July 31 – August 2, 2010

- Day 1: Saturday, July 31, Field Study Day ...

- 08:00-09:30 Transport to five field study sites from the Hyatt Hotel.
- (Transport times will vary depending upon specific field site.)
- 09:30-12:00 Model and debrief activities focusing on: (1) Observation of natural phenomena, (2) Making Inferences, (3) Identification of variables and
- (4) Identification of questions.
- 12:00-13:00 Lunch at field sites.
- 13:00-15:00 Model and debrief activities focusing on: (5) Identification of
- researchable questions and hypotheses and (6) Designing a research
- plan – with emphasis on use of, or adaptation of, GLOBE Protocols.
- 15:00-16:30 Transportation back to the Hyatt Hotel

- Day 2: Sunday, August 01, Sessions at the Hyatt Hotel ...

- 09:00-10:00 Plenary - GLOBE Climate Change Campaign research questions.
- 10:30-11:00 Break
- 11:00-12:30 (1) Techniques for helping students study change over time.
- (2) Accessing, using and analyzing trends in long term data sets.
- (3) Small Group Breakouts.
- 12:30-13:30 Lunch
- 13:30-16:00 Using the GLOBE Student Research Collaboratory to support
- student research and collaboration. (1) Partnering with other GLOBE
- schools on common research questions. (2) Report writer tool. (3) Peer
- review tool and process. (4) Small Group Breakouts.
- 16:00-16:30 Wrap up, next steps, PD Workshop Evaluation.

- Day 3: Monday, August 02, ESSP Sessions at the Hyatt Hotel ...

- 09:00-16:30 (1) Carbon Cycle, (2) CloudSat, (3) FLEXE,
- (4) Seasons and Biomes, (5) Watershed Dynamics



14<sup>th</sup>

# GLOBE Annual Meeting

*Calgary, Alberta, Canada*

July 29 - Aug 3, 2010

## A Glimpse of Professional Development Workshop Field Sites

**(1). Biogeoscience Institute .. University of Calgary  
(Kananaskis Field Station)**

**(2). Cross Conservation Area**

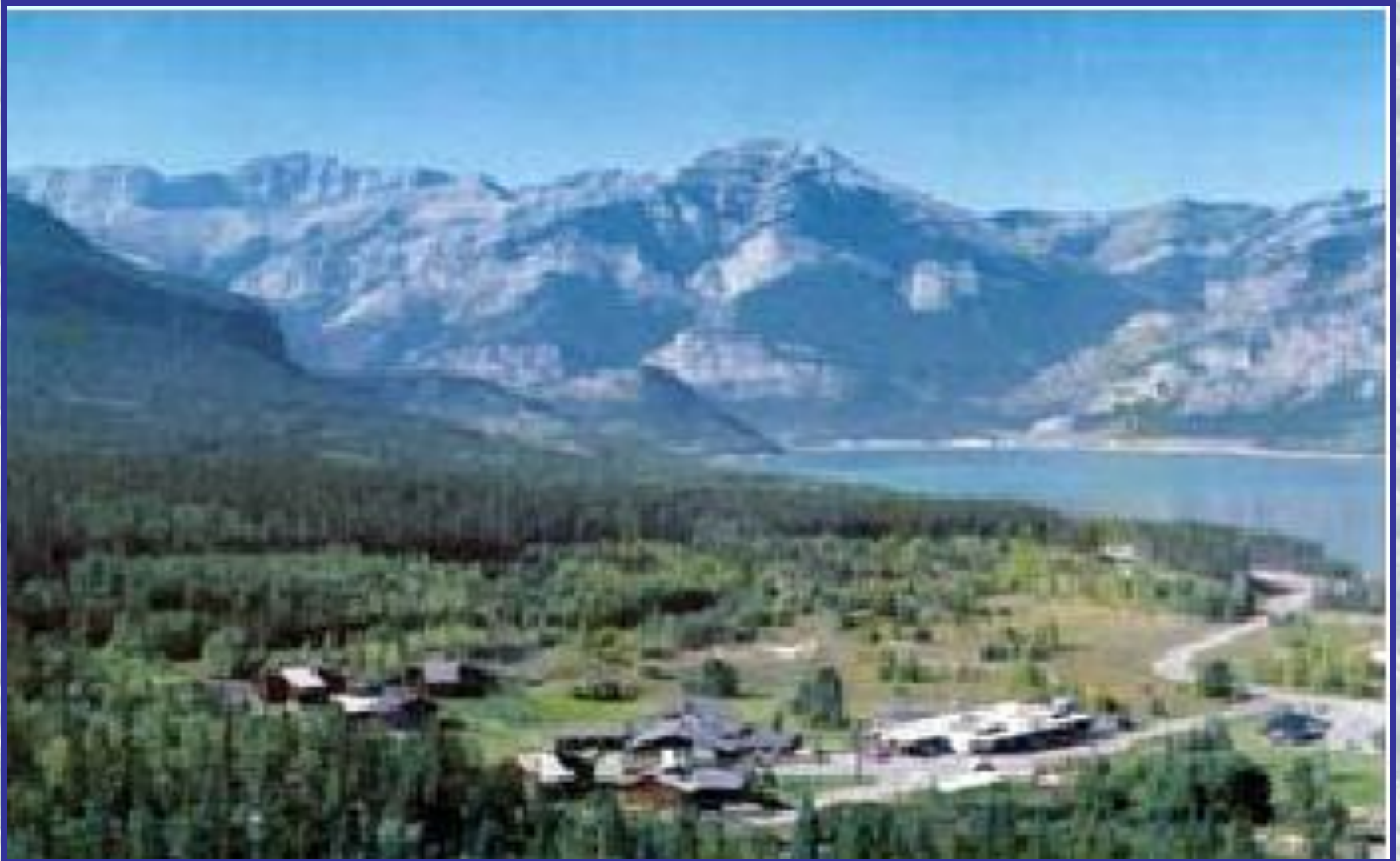
**(3). Fish Creek Provincial Park (West End)**

**(4). Fish Creek Provincial Park (East End)**

**(5). Inglewood Bird Sanctuary**



# Biogeoscience Institute.. UofC









# Cross Conservation Area







**Fish Creek** Provincial Park









2  
4  
2  
5

INGLEWOOD



BIRD SANCTUARY  
INGLEWOOD



**Help protect wildlife &  
prevent habitat destruction  
by staying on these trails.**

THE CITY OF CALGARY









# The GLOBE Program

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## GLOBE Annual Partner Meetings

(previously called GLOBE Annual Conferences)

GLOBE Annual Meetings bring together GLOBE Country Coordinators and U.S. Partnership Coordinators, Science and Education Principal Investigators, as well as Partnering Organizations from around the world to address key science and education elements of GLOBE.

These events offer a unique opportunity for participants to learn about the latest scientific research and other developments in the Program, interact with GLOBE community members and scientists who are using GLOBE data in their research, and open dialogues with top educators on effective methods to enhance the GLOBE educational process in the classroom. Beginning with the opening reception, members of the GLOBE Community have the opportunity to display a poster and/or other exhibit materials highlighting their local GLOBE activities. In addition, science, education and implementation panels and discussions focus on issues important to leaders in the GLOBE community. Participants also have the opportunity to practice their protocol skills and learn about new GLOBE science investigations during the field day activities and workshop sessions.




# TO REGISTER ...[www.globe.gov](http://www.globe.gov))

14th GLOBE Annual Partner Meeting and Professional Development Workshop

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## 14th GLOBE Annual Partner Meeting and Professional Development Workshop



[General Information](#) [Register Now](#)

The GLOBE Program Office, our sponsors, and the GLOBE International Advisory Committee are pleased to invite you to participate in the 14<sup>th</sup> GLOBE Annual Partner Meeting and Professional Development Workshop, scheduled for 29 July - 3 August 2010, at the Hyatt Regency in Calgary, Alberta, Canada.

[Preliminary Agenda](#)

[Invitation Letter \(Generic\)](#)

[Submit Your Presentation Abstract](#)

Professional Development Activities (coming soon)

Sponsor and Exhibitor Information (coming soon)





# "GENERAL INFORMATION"

## **General Schedule**

Thursday, 29 July 2010 at 17:00 through Tuesday, 3 August 2010 at 12:00. The Event begins with an opening reception on Thursday, 29 July 2010 at 17:00 and runs through Tuesday, 3 August at 12:00.

Registration and Poster set up will begin at 10:30 on Thursday, 29 July 2010.

Exhibit set up will begin on Saturday, 31 July at 17:00. Exhibits will be displayed through the close of the Event on Tuesday, 3 August.

## **Special Events**

Opening Reception: Thursday, 29 July, 17:00 — 20:00 (*cash bar*)

Outdoor Professional Development Activities: Saturday, 31 July 8:00 — 17:00

GLOBE Annual Banquet: Monday, 2 August, 18:00 (*cash bar*)

## **Registration Fees:**

Early Registration (by 15 April 2010 - Midnight Mountain Time)	\$300 U.S.
Late Registration (16 April 2010 - 12:01 AM Mountain Time or after):	\$400 U.S.
Exhibitor (two-and-a-half day registration includes Sunday, Monday, Tuesday and Monday night Banquet.)	\$250 U.S.

Full registration fee includes meeting participation, opening reception, light breakfast, morning and afternoon refreshment breaks each day, and lunch Friday through Monday, 30 July — 2 August, outdoor professional development activities, and the GLOBE Annual Banquet. ***Dinners are not included*** (except for the GLOBE Annual Banquet) in the registration fee.



# **OPTIONAL TOUR #1**

## **Tuesday, August 3, 2010**

- **Calgary to Lake Louise to Banff to Calgary**
- **COST: \$60.00 USD**
- **No Meals Included**
- **Limited to 56 Passengers**
- **Duration: Approximately 8.5 Hours**
- **Spend 1 Hour in Lake Louise and 2 Hours in Banff**
- **Leave Calgary at 1:00 pm and Return 8:30 pm**



# **OPTIONAL TOUR #2**

## **Wednesday, August 4, 2010**

- **Calgary to Lake Louise to Moraine Lake to Crowfoot Glacier to Peyto Lake to Calgary**
- **COST: \$90.00 USD**
- **Box Lunch is included.**
- **Limited to 56 Passengers**
- **Duration: Approximately 8.5 Hours**
- **Time on Site: Lake Louise (30 min), Moraine Lake (30 min), Crowfoot Glacier (30 min), Peyto Lake (60 min)**
- **Leave Calgary at 8:00 am and Return at 5:00 pm**



# Destinations ...

1. Lake Louise ... is Canada's "Diamond in the Wilderness" and the "Hiking Capital of Canada." The region abounds with hiking and walking trails, spectacular scenery from glaciers to waterfalls.
2. Banff ... is located in Banff National Park and is surrounded by mountain parkland and wilderness and shares its space with wildlife. Banff has opportunities to experience from the most rugged of outdoor activities to world-class arts and cultural displays, corner boutiques, shopping malls to extensive choice in restaurants.



## Destinations ...

3. *Moraine Lake* ... is a glacially fed lake in Banff National Park. Situated in the Valley of the Ten Peaks at an elevation of approximately 1884 m (6183 ft). Moraine Lake reaches its crest about mid-to late June and, when full, it reflects a distinct shade of blue. This colour is due to the refraction of light off the rock flour deposited in the lake on a continual basis. .



## Destinations ...

4. **Crowfoot Glacier** ... is east of the Continental Divide and runoff from the glacier supplies water to the Bow River. The glacier has retreated since the end of the Little Ice Age and now has lost an entire lobe thus no longer resembles the glacier when explorers named it. The glacier was measured to be 1.5 km<sup>2</sup> (0,58 miles<sup>2</sup>).



## Destinations ...

5. **Peyto Lake** ... is a glacially fed lake in Banff National Park and is formed in a valley of the Waputik Range, between Caldron Peak, Peyto Peak and Mount Jimmy Simpson at an elevation of 1,860 m (6,100ft). During summer, significant amounts of glacial rock flour flow into the lake giving the lake a bright turquoise colour. The lake is best seen from Bow Summit, the highest point on the Icefields Parkway.



**GLOBE**Canada



**GL**  **BE**  
**Canada**